Appl. No. 10/044,720
Amdt. dated June 2, 2006
Reply to the Office Action of 03/02/2006

REMARKS/ARGUMENTS

The Applicants have studied the Office Action dated March 2, 2006 and have made amendments to the claims to distinctly claim and particularly point out the subject matter which the Applicants regard as the invention. No new matter has been added. It is submitted that the application, as amended, is in condition for allowance. By virtue of this amendment, claims 1-36 are pending. Reconsideration and allowance of the pending claims in view of the above amendments and the following remarks is respectfully requested.

Claim Rejections under 35 USC § 103 – Ingle, Chang and Spaderna

The Examiner rejected Claims 1-5, 7-10, 12-30, and 32-35, under 35 U.S.C. 103(a) as being unpatentable over Ingle et al. (U.S. Patent Publication 2002/0138524) (hereinafter "Ingle") in view of Chang et al. (U.S. Patent Publication 2003/0050923) (hereinafter "Chang") further in view of Spaderna (U. S. Patent Number 5,687,131) (hereinafter "Spaderna"). The Examiner recites 35 U.S.C. §103. The Statute expressly requires that obviousness or non-obviousness be determined for the claimed subject matter "as a whole," and the key to proper determination of the differences between the prior art and the present invention is giving full recognition to the invention "as a whole."

The Applicants have amended independent claims 1, 12, 19, and 26 to more clearly describe the presently claimed invention. Support for these amendments is found in the specification at, for example, page 13, lines 1-14. No new matter has been added by these amendments.

To begin, the Applicants assert that the Ingle reference teaches creating discharge summaries for particular patients. See, Ingle, page 2, paragraphs 24-31 and paragraph 34, page 3, paragraph 56. The Applicants assert that the data that is inserted into the discharge summary generated by the system of Ingle are selected based upon

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an exact match of the patient's identification and the data mined from a database. The information contained in the summary document of Ingle is further taught to contain different types of information that are only related by the fact that these different types of information pertain to the same patient. For example, Ingle teaches several types of information that are mined for inclusion into the summary document. Ingle mentions "coding data, discharge instructions, laboratory results, and pharmacy records" as data accepted by its parsing engine. Ingle, page 3, paragraph 54. These data are then assembled into the summary document. Ingle, page 3, paragraph 57.

In contrast to Ingle, the presently claimed invention places Elements Of Content (EOC) into virtual buffers based upon the similarity of the data itself, not based upon its relationship to an extrinsic factor, such as a patient's data.

Claims 1 and 26 have been amended to specify "pre-defining each buffer within the plurality of virtual buffers to contain EOC that all have respective calculated distances between each other of less than a given distance value." The cited references do not teach or suggest pre-defining buffers to contain information based upon the similarity of information to other information stored in the buffer. As discussed above, Ingle teaches creating a summary document for an individual that contains medical information for that individual. The information provided to the summary document of Ingle is determined by the identity of the individual, not by specifying that the data items themselves "all have respective calculated distances between each other of less than a given distance value" as is set forth for claims 1 and 26.

Similarly, amended claims 1 and 26 specify "providing each of the EOC to a respective associated virtual buffer within the set of virtual buffers based upon the respective calculated distances between the each of the EOC and EOC previously provided to that respective associated virtual buffer." Again, Ingle teaches providing information based on a subject associated with the summary document, such as the patient's identity, and not "based upon the respective calculated distances between the

each of the EOC and EOC previously provided to that respective associated virtual buffer."

With regards to claims 1 and 26, the Applicants traverse the Examiner's assertion that the Ingle reference teaches the claim limitation of "providing the EOC to a set of virtual buffers, each EOC being provided to one of the set of virtual buffers that is pre-defined to contain EOC with less than a given distance value between each other." The Applicants further traverse the Examiner's assertion that "the memory in the assembly engine 108" of the Ingle reference is an adequate teaching of a "virtual buffer" as is set forth in claims 1 and 26. Office Action dated March 2, 2006, page 3, first paragraph. Ingle only teaches assembling data that pertains to a particular patient into a summary document. The Ingle reference does not teach or suggest storing information based on distances between the information itself, as is set forth by the independent claims of the present invention.

The Applicants further assert that the "set of virtual buffers" specified by claims 1 and 26 are more than simple copies of the single document taught by Ingle. The EOC in these claims are each provided to the entire set of virtual buffers, and the processing places the EOC into virtual buffers based upon that EOC relationship, specified by a given distance value, to other EOC that are in the particular virtual buffer within the set of virtual buffers. The Applicants assert that this is substantially different than the teachings of Ingle, which assemble a single document that contains data that satisfies criteria for that document.

The Applicants assert that the Chang reference is also limited to identifying objects based upon the object's similarity to "a user's current query concept." Chang, page 2, paragraph 0028. The Applicants assert that neither Chang, Ingle, Spadema, nor any combination of the two cited references, teaches or suggests the "pre-defining" limitation described above.

Further, the Applicants traverse the Examiner's assertion that Chang teaches "calculating a distance function from every EOC to every other EOC." The teachings of Chang are limited to determining distances between "a user's current query concept" and samples in a database. Chang, page 2, paragraph 28. The Applicants assert that this differs from "calculating a distance function from every EOC to every other EOC" as is set forth in claims 1 and 26. The distance determination as set forth in claims 1 and 26 determines the distance between all combinations of EOC, and not the distance between the EOC and a query concept as is taught by Chang. The Applicants further assert that Ingle, taken either alone or in any combination with Chang, Spaderna and/or the other cited references, also does not teach or suggest "calculating a distance function from every EOC to every other EOC" as is set forth in claims 1 and 26.

In addition to the above described differences regarding the structure of the claimed "set of virtual buffers," the Applicants assert that the teachings of Ingle and Chang, taken either alone or even in any combination with one another or with the other cited prior art of record, does not teach or suggest the limitation of "pre-defining each buffer within the plurality of virtual buffers to contain EOC that all have respective calculated distances between each other of less than a given distance value" as is recited for claims 1 and 26. As discussed above, the Ingle reference is limited to forming a single document that contains data about a specific patient. The Ingle reference does not teach or suggest assembling multiple data objects based upon relationships between and among the individual data objects that are to be assembled, as opposed to the relationship between the data objects and criteria specified for the assembled data, such as the patient's identification. The Ingle reference is limited to mining data objects from a database and assembling data objects into a summary document according to specified criteria for that summary. Ingle, page 3, paragraph 0052. The Applicants assert that mining data objects returns data objects that exactly match searching criteria, and does not include comparing data objects to each other in order to produce a set of virtual buffers as is specified by claims 1 and 26.

Further, the Applicants assert that there is no motivation to combine the teachings of Ingle and Chang. The Ingle reference is directed to assembling data based upon exact matches of data. Chang is directed to quantifying similarities between objects. Ingle has not suggestion of applying its teachings in applications with anything other than an exact match between the subject of the document, i.e., a patient's identification. Chang does not suggest assembling data based upon the similarity of the data items to each other.

With regards to the Spaderna reference, the Examiner states that Spaderna discloses "a memory block that is pre-defined to perform multiple functions." The functions defined for the memory of Spaderna include cache mode, SRAM mode, flush mode and invalid mode. Spaderna, column 4, lines 6-14. These modes are defined for the entire memory device of Spaderna, not for "a plurality of virtual buffers." Each line of cache memory has three status bits, one bit to indicate if the data in the line is valid, one to indicate if data has been written into the line and one bit indicating "least recently used." Spaderna, column 3, lines 42-51. The Applicants fail to see how these modes are at all related to the presently claimed invention.

Further, the Applicants assert that the Spaderna reference does not teach or suggest, either alone or in combination with other cited references, "defining a set of virtual buffers comprising a plurality of virtual buffers; and pre-defining each buffer within the plurality of virtual buffers to contain EOC that all have respective calculated distances between each other of less than a given distance value" as is claimed by claims 1 and 26. In conjunction with the above statement regarding the disclosure of Spaderna, the Examiner goes on to state: "Chang et al, discloses method to calculate the similarity between objects." Office Action dated March 2, 2006, page 3, third full paragraph. As discussed above, the Chang reference teaches a distance function that measures the similarity between objects. Chang, page 4, paragraph 54. The Applicants assert that the combination of the teachings of Spaderna and Chang, particularly as described by the Examiner, does not teach or suggest these claim limitations.

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With regards to claims 12 and 19, the Applicants reference the above remarks regarding claims 1 and 26 as they apply to the similar limitations of claims 12 and 19. Based on those remarks, the Applicants assert that claims 12 and 19 also distinguish over the cited prior art references.

With regards to claims 13 and 20, the Applicants reference the above remarks concerning "calculating a distance function from every EOC to every other EOC" as they apply to the similar limitations of claims 13 and 20, and similarly assert that these claims also distinguish over the cited prior art references.

With regards to claims 2, 3, 27 and 28, the Applicants have amended these claims to specify that "plurality of information sources" of these claims comprise "news channels" or "news stories." Support for these amendments is found in the specification at, for example, page 6, lines 7-13. No new matter has been added by these amendments. The Applicants assert that, when considering the invention specified by these claims "as a whole," performing the combination of limitations specified by these claims, along with the limitations of independent claims 1 or 26 from which they depend is not taught or suggested by the cited references. For example, information provided by news channels is not pre-defined and has a flexible and changing relationship to other information provided by the same or different news channels. The dynamic relationship between EOC from news channels is materially different than identifying, as might be the case in the Ingle reference, if data in medical records are for the same patient.

With regards to claims 9, 18, 25 and 34, the Applicants have amended these claims to more clearly specify "summarizing text based EOC contained within each virtual buffer within the set of virtual buffers to create a summarization of each respective virtual buffer; and creating a corresponding virtual summary buffer for each of a plurality of virtual buffers within the set of virtual buffers, each corresponding virtual summary buffer containing a summarization of a respective virtual buffer within the set of virtual buffers." Support for these amendments is found in the specification at, for example, page 13, line 16 through page 14, line 11. No new matter has been added by

these amendments.

The Applicants assert that the cited references do not teach or suggest the "summarizing" as set forth for amended claims 9, 18, 25 and 34, particularly when those claims are considered "as a whole" including the independent claims from which they depend. For example, the "virtual buffers," as defined by the independent claims, are pre-defined "to contain EOC that all have respective calculated distances between each other of less than a given distance value." Although the Chang reference discusses identifying similar patterns in data and Ingle describes assembling data based upon exact criterial matching, there is no teaching or suggestion of "summarizing text based EOC contained within each virtual buffer" particularly when considering the relationship of data that is within "each virtual buffer" as discussed above. Further, there is no teaching or suggestion of "creating a corresponding virtual summary buffer for each of a plurality of virtual buffers ... each corresponding virtual summary buffer containing a summarization of a respective virtual buffer" as is set forth for claims 9, 18, 25, and 35.

The Applicants further traverse the Examiner's assertion that the Ingle reference teaches "further comprising the step of creating virtual summary buffers." The Examiner cites the last paragraph at the conclusion of the specification of the Ingle reference as a teaching of this limitation. Office Action dated March 2, 2006, page 5, first paragraph, citing Ingle, page 6, paragraph 106. As discussed above with regards to the "set of virtual buffers," the Ingle reference is limited to creating a single document. This single document is created by assembling data into a format for a pre-defined discharge summary. Ingle, page 3, paragraph 46. The Applicants assert that this "discharge summary" is the "summary document" discussed in the cited portion of the Ingle. Ingle, page 6, paragraph 106. Amended claims 9, 18, 25 and 34 clearly identify the "virtual summary buffers" as separate from the "virtual buffers" defined by claims from which these claims depend.

Further, the Applicants assert that the Chang reference, taken either alone or in any combination with the Ingle reference or other cited prior art references, fails to teach the creation of "virtual summary buffers" as is recited by claims 9, 18, 25 and 34.

With regards to claims 10, 14, 21 and 35, the Applicants have amended these claims to more clearly set forth this particular aspect of the present invention. Support for these amendments is found in the specification at, for example, page 14, line13 through page 15, line 22. No new matter has been added by these amendments.

The Applicants assert that the cited references do not teach or suggest, particularly in the context of the other limitations when considering the invention as a whole, the combination of "extracting context-preserving EOC from each respective concatenated EOC; and synthesizing the content-preserving EOC extracted from each respective concatenated EOC into summary digests." In particular, performing this processing in conjunction to EOC in a particular virtual buffer, which is defined by the independent claim as containing "EOC that all have respective calculated distances between each other of less than a given distance value," is materially different from the teachings of Ingle, Chang and Spaderna, which teach assembling data related to, for example, a particular patient, determining similarities between objects and a query concept, and defining memory with functions.

The Examiner asserts that "concatenating the EOC in each virtual buffer" corresponds to the clustering of Chang applied to the "documents" of Ingle. Office Action dated March 2, 2006, page 5, third paragraph. As stated above, the Ingle reference is directed to assembling different types of data that are only related by their pertaining to a particular patient. The contents of the "documents" are not analyzed by Ingle. The cited portion of Chang refers to a process for identifying image samples to present to a user for purposes of training an image recognition system. Chang, page 6, paragraphs 0131 and 0132. The Applicants assert that the "clustering" discussed by the Chang reference refers to identifying images that are similar and therefore facilitating the selection of sufficiently different images. For example, Chang states "the query-concept learner

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process often attempts to select samples from among different clusters of samples." Chang, page 6, paragraph 0132. Chang does not teach or suggest using clusters of data to produce an output to a user of related items, it teaches the opposite usage.

The Applicants further assert that the amended limitation reciting "extracting context-preserving EOC, the context-preserving EOC being determined based upon a respective degree of corroboration of the context preserving EOC" is not taught or suggested by the cited references taken either alone or in any combination.

Additionally, Applicants note that dependent claims 2-5, 7-10, 13-18, 20-25, 27-36 depend from independent claims 1, 12, 19 and 26, respectively. As discussed above, independent claims 1, 12, 19 and 26 distinguish over the cited prior art. Since dependent claims include all of the limitations of the independent claims from which they depend, Applicants further assert that dependent claims 2-5, 7-10, 13-18, 20-25, 27-36 also distinguish over the cited prior art as well. Therefore, Applicants assert that the Examiner's rejection under 35 U.S.C. §103(a) should be withdrawn.

Claim Rejections under 35 USC § 103 – Ingle, Chang Spaderna, and Bull

The Examiner rejected Claims 6 and 31 under 35 U.S.C. 103(a) as being unpatentable over Ingle et al. (U.S. Patent Publication 2002/0138524) in view of Chang et al. (U.S. Patent Publication 2003/0050923) in further view of Spaderna (U. S. Patent No. 5,687,131) as was applied in the rejection of Claims 1-5, 7-10, 12-30, and 32-35, and further in view of Bull et al. (U.S. Patent Publication 2003/0187726) (hereinafter "Bull").

Applicants point out that dependent claims 6 and 31 depend from independent claims 1 and 26, respectively. As discussed above, independent claims 1 and 26 distinguish over the cited prior art. Since dependent claims include all of the limitations of the independent claims from which they depend, Applicants further assert that

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dependent claims 6 and 31 also distinguish over the cited prior art as well. Therefore, Applicants assert that this rejection under 35 U.S.C. §103(a) should be withdrawn

Allowable Subject Matter

Applicants wish to acknowledge and thank the Examiner for finding that Claims 11 and 36 would be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims.

Conclusion

The foregoing is submitted as full and complete response to the Official Action mailed 03/02/2005, and it is submitted that Claims 1-36 are in condition for allowance. Reconsideration of the rejection and reexamination is requested. Allowance of Claims 1-36 is earnestly solicited.

No amendment made was related to the statutory requirements of patentablity unless expressly stated herein. No amendment made was for the purpose of narrowing the scope of any claim, unless Applicants have argued herein that such amendment was made to distinguish over a particular reference or combination of references.

Applicants acknowledge the continuing duty of candor and good faith to disclose information known to be material to the examination of this application. In accordance with 37 CFR § 1.56, all such information is dutifully made of record. The foreseeable equivalents of any territory surrendered by amendment are limited to the territory taught by the information of record. No other territory afforded by the doctrine of equivalents is knowingly surrendered and everything else is unforeseeable at the time of this amendment by the Applicants and the attorneys.

If the Examiner believes that there are any informalities that can be corrected by Examiner's amendment, or that in any way it would help expedite
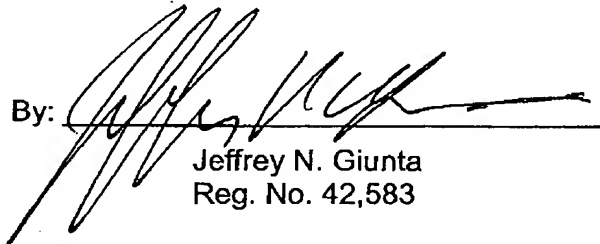
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the prosecution of the patent application, a telephone call to the undersigned at (561) 989-9811 is respectfully solicited.

In view of the preceding discussion, it is submitted that the claims are in condition for allowance. Reconsideration and re-examination is requested.

Respectfully submitted,

Date: June 2, 2006   By:

Jeffrey N. Giunta
Reg. No. 42,583